

Listing of the claims

1-33 (Cancelled)

34. (Original) A method for forming a macroscopic molecular array of tubular carbon molecules, said method comprising the steps of:

- a) providing a nanoscale array of microwells on a substrate;
- b) depositing a metal catalyst in each of said microwells; and
- c) directing a stream of hydrocarbon or CO feedstock gas at said substrate under conditions that effect growth of single-wall carbon nanotubes from each microwell.

35. (Amended) A The method of claim 34 further for forming a macroscopic molecular array of tubular carbon molecules, said method comprising the steps of:

- a) providing a nanoscale array of microwells on a substrate;
- b) depositing a metal catalyst in each of said microwells; and
- c) directing a stream of hydrocarbon or CO feedstock gas at said substrate under conditions that effect growth of single-wall carbon nanotubes from each microwell, and
- d) applying an electric field in the vicinity of said substrate to assist in the alignment of said nanotubes growing from said microwells.

36-162 (Cancelled)

163. (Amended) A method for forming a macroscopic molecular array of single-wall carbon nanotubes comprising:

- (a) providing an array of a plurality of metal catalysts on a substrate; and

- (b) directing a stream of carbon containing feedstock gas at the substrate under conditions for growing single-wall carbon nanotubes from at least one of the plurality of the metal catalysts.
164. (Previously presented) The method of claim 163, wherein the carbon containing feedstock gas comprises a gas selected from the group consisting of hydrocarbons, CO, and combinations thereof.
165. (Previously presented) The method of claim 163 wherein the array of the plurality of metal catalysts are formed by depositing catalysts in an array of microwells on the substrate.
166. (Previously presented) The method of claim 165 further comprising producing the substrate with an array of the microwells.
167. (Amended) A The method of claim 163 further for forming a macroscopic molecular array of single-wall carbon nanotubes comprising:
- (a) providing an array of a plurality of metal catalysts on a substrate; and
 - (b) directing a stream of carbon containing feedstock gas at the substrate under conditions for growing single-wall carbon nanotubes from at least one of the plurality of the metal catalysts; and
 - (c) applying an electric field to the substrate.
168. (Previously presented) The methods of claim 163 wherein the substrate comprises a substance selected from the groups consisting of silicon, silicon dioxide and combinations thereof.
169. (Previously presented) The method of claim 165 wherein the catalysts are in the form of pre-formed nanoparticles.
170. (Previously presented) The method of claim 165 wherein the substrate comprises at least about one million microwells.